## AMENDMENTS TO THE CLAIMS

Claims 1-15 (canceled)

16. (new) An ozone detection system based on voltammetry, for detecting the presence and/or concentration of ozone in a liquid sample, comprising

at least one working electrode comprised of one or more of the metals selected from the group consisting of Rh, Pt, Au, Os, Ru, Ni, Ti, and Re;

a counter electrode;

a programmable pulse generator capable of applying a predetermined sequence of energizing pulses to said at least one working electrode;

a recording device for recording the output from said at least one working electrode generated in response to the applied pulse sequence;

a sampling device for sampling values of said output at predetermined intervals;

a memory for storing the sampled values in a matrix;

a processing unit (PC) for performing a multivariate analysis of said matrix, and predicting a concentration of ozone based on the results of said multivariate analysis; and

a display device for displaying the result of said multivariate analysis.

17. (new) The ozone detection system as claimed in claim 16, wherein said at least one working electrode is made of Rh.

18. (new) The ozone detection system as claimed in claim 16, wherein said at least one working electrode and said counter electrode are provided on-line in a processing plant.

19 (new) The ozone detection system as claimed in claim 16, wherein the at least one working electrode comprises two or more working electrodes.

20. (new) The ozone detection system as claimed in claim 16, wherein the number of working electrodes is four to six.

21. (new) The ozone detection system as claimed in claim 16, wherein the at least one working electrode comprises a plurality of working electrodes made of different materials.

22. (new) The ozone detection system as claimed in claim 16, further comprising a rod shaped support member wherein electrodes are imbedded, such that a surface portion of the each electrode is exposed.

23. (new) The ozone detection system as claimed in claim 22, further comprising an auxiliary electrode provided as a ring electrode on the periphery of said rod shaped support member.

24. (new) The ozone detection system as claimed in claim 16, further comprising an essentially planar plate member of an inert material on which a plurality of the at least one working electrode are provided as strips of metal.

25. (new) The ozone detection system as claimed in claim 24, wherein the inert material comprises ceramic.

26. (new) The ozone detection system as claimed in claim 16, wherein said at least one working electrode and said counter electrode are provide inside a tube segment forming part of a circulation system of a processing plant in which it is desired to monitor the presence or concentration of ozone, and wherein said at least one working electrode and said counter electrode have electrical through-connections through said tube segment at least at one end of each of said at least one working electrode and said counter electrode, for connection to external equipment.

27. (new) The ozone detection system as claimed in claim 16, further comprising auxiliary electrodes for measuring conductivity.